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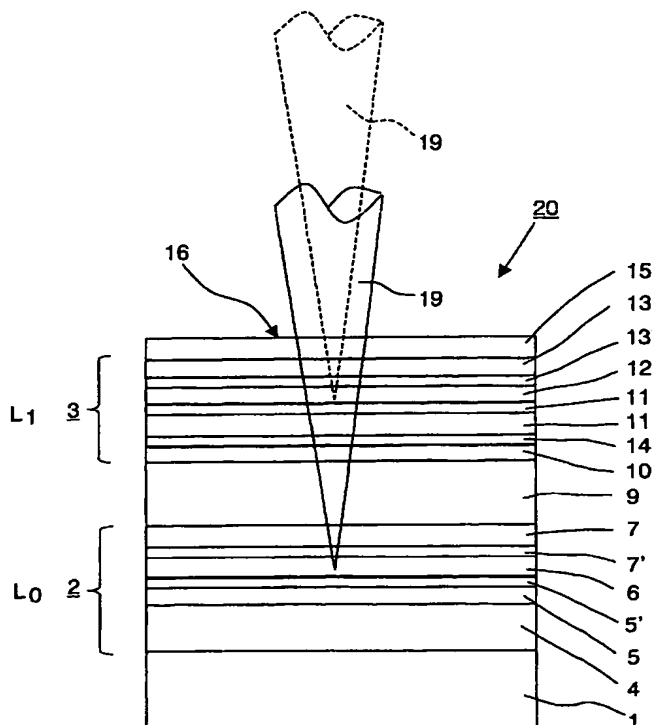
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(54) Title: MULTI-STACK OPTICAL DATA STORAGE MEDIUM AND USE OF SUCH MEDIUM



(57) Abstract: A multi-stack optical data storage medium (20) for rewritable recording using a focused radiation beam (19) entering through an entrance face (16) of the medium (20) during recording is described. The medium (20) comprises a substrate (1) with deposited on a side thereof a first stack (2) L_0 comprising a first phase-change type recording layer (6). The first recording stack (2) is present at a position most remote for the entrance face (16). At least one further recording stack (3) L_n , which comprises a further phase-change type recording layer (12), is present closer to the entrance face (16) than the first recording stack (2). A transparent spacer layer (9) is present between the recording stacks (2, 3). The further recording layer (12) is substantially of an alloy defined by the formula $\text{Ge}_x\text{Sb}_y\text{Te}_z$ in atomic percentages, where $0 < x < 15$, $50 < y < 80$, $10 < z < 30$ and $x + y + z = 100$ with a thickness selected from the range of 4 to 12 nm and has at least one transparent crystallization promoting layer (11', 13') having a thickness smaller than 5nm in contact with the further recording layer (12). A high optical transmission combined with a low crystallization time of the recording layer (12) of the L_n stack (3) is achieved making the medium (20) suitable for multi-stack high speed recording with a linear recording velocity of at least 12 m/s.

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